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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,408	03/02/2001	Akhtar Osman	MO6259PS1046	8317

157 7590 04/08/2003

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EXAMINER

LU, C CAIXIA

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 04/08/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/786,408

Applicant(s)

OSMAN ET AL.

Examiner

Caixia Lu

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1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-64 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 33-64 is/are rejected.
- 7) ☒ Claim(s) 63 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Specification

*Withdrawn
supported
P. 8 215*

1. The amendment filed on March 10, 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the limitation of "gel content below 250 ppm" in line 2 of Claim 33.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

2. Claims 46 and 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 46

The limitation of "C₂-C₁₈ non-conjugated dienes is erroneous because a non-conjugated diene requires at least three carbons in the molecular.

In the amendment filed on March 10, 2003, applicants indicated that 1,2-butadiene, which has four carbon atoms, as a non-conjugated diene. Since the smallest non-conjugated diene is propadiene, a C₃ non-conjugated diene, a non-conjugated containing C₂ is not possible. Thus, the rejection is maintained.

Claim Rejections - 35 USC § 102/103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 33-40, 44, and 48-54 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Matsuda et al. (US 5,109,082) for the same rationale as set forth in the previous office action, Paper No. 4.
5. Claims 39-47, 55-62 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda et al. (US 5,109,082) in view of Tsujimoto et al. (US 5,905,125) for the same rationale as set forth in the previous office action, Paper No. 4.

Response to Arguments

6. Applicant's arguments filed on March 10, 2003 have been fully considered but they are not persuasive.

Applicants argue that "Matsuda, et al. also requires the presence of a gelation inhibitor", thus, Matsuda fails to teach or suggest the process preparing a cis-1,4-polybutadiene having a gel content of less than 250 ppm. This is incorrect. Matsuda teaches "the gelation inhibitor is added to the polymerization system **if required** to further improve the gelation inhibiting effect", Matsuda's process does not require a gelation inhibitor. As a matter of fact, the gelation inhibitor is not used in Matsuda's Examples 1 and 2. Furthermore, the process of the instant claims does not exclude the use of gelation inhibitors.

Applicants argue that "Matsuda, et al. is also silent to the fact that the polymerization diluent comprises an organic solvent and water particles having a

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median particle size less than or equal to about 10 μm , Matsuda, et al. merely discloses that water is passed through a 5 micron or less porous filter prior to be dispersed in the inert organic solvent". Applicants also assert that when "the water droplets disclosed in Matsuda, et al. are pressed through a filter, they will tend to immediately coalesce and grow bigger when dispersed in the hydrocarbon, i.e., the water particles in the hydrocarbon according to Matsuda, et al. have a particle size greater than 10 μm ". As indicated the previous office action, Matsuda teaches the porous filter has preferably a pore diameter of 5 microns or less, more preferably 2 micron or less, and filter of a pore diameter of 2 microns is use in the working example (col. 2, lines 38-42 and col. 4, line 10). Matsuda also teaches that the gelation inhibiting effect is related to the dispersed state of water: when the dispersed state of water is good, the polymerization media is a colorless or pale yellow clear solution, and when the dispersed state of water is bad the polymerization system becomes turbid (col. 2, line 64 to col. 3, line 3), i.e., Matsuda teaches good water dispersion in the polymerization media minimize gelation.

Therefore, one would have expected that Matsuda's process is designed to optimize the dispersion of water in the polymerization media by using a porous filter and to minimize or prevent tendency for the water droplets to coalesce in the polymerization media. The filter of a pore diameter of 2 microns is use in Matsuda's working example, even if some of degree of coalescence of water droplets did occur after passing the 2 microns filter, one would still expect the size water droplets to close to 2 microns not the 10 microns as asserted by the applicants.

While Matsuda does not expressly teach the gel content of in the polymer below 250 ppm, Matsuda does teach the number of gel as the measurement of the gel content (Table 1, col. 5). Since Matsuda does not define the term "number of gels", converting the number of gel to ppm gel content in the polymer of the instant claims is not possible at this point. However, as indicated the previous office action, Paper No. 4, Matsuda's polymerization process is identical or substantially identical to those of applicants, one would have expected Matsuda's process to meet the gel content limitation of the instant claims.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (703) 306-3434.

The examiner can normally be reached on 9:00 a.m. to 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1193.



Caixia Lu, Ph.D.
Primary Examiner
Art Unit 1713

CL
April 4, 2003